

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for protecting users from Web sites hosting computer viruses comprising the steps of:
receiving information identifying a Web page selected for access by a user;
determining whether the Web page is hosted by a Web site that is included in a database of Web sites related to computer viruses; and
allowing access to the Web page based on whether the Web page includes a link to a Web site that is included in the database;
wherein access to the Web page is allowed before determining whether the Web page is included in the database;
wherein the database of Web sites related to computer viruses is generated by:
extracting, from a first Web page, a link to a second Web page;
fetching the second Web page using the link;
scanning the second Web page for computer viruses; and
storing information relating to a Web site that is hosting the second Web page in the database;
wherein further included are the steps of:
extracting, from each Web page fetched, links to other Web pages;
fetching the other Web pages using the links;
scanning the other Web pages for computer viruses; and
storing information relating to Web sites that are hosting the other Web pages in the database.
2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Currently Amended) The method of claim 41, wherein the allowing step comprises the steps of:

continuing to allow access to the Web page, if the Web page is determined not to be included in the database; and

preventing access to the Web page, if the Web page is determined to be included in the database.

6. (Cancelled)

7. (Cancelled)

8. (Currently Amended) The method of claim 71, wherein the stored information includes information identifying the Web site that is hosting the second Web page and information identifying any computer viruses that were found in the second Web page.

9. (Cancelled)

10. (Currently Amended) The method of claim 91, wherein the stored information includes information identifying the Web sites that are hosting the other Web pages and information identifying any computer viruses that were found in the other Web pages.

11. (Currently Amended) The method of claim 61, wherein the generating step comprises the steps of:

extracting, from a first Web page, a link to a second Web page;

fetching the second Web page using the link;

scanning the second Web page for terminology relating to computer viruses;

reviewing content of the second Web page to determine whether a Web site hosting the second Web page is virus hosting, if the second Web page includes terminology relating to computer viruses; and

storing information relating to the Web site that is hosting the second Web page in the database.

12. (Original) The method of claim 11, wherein the stored information includes information identifying the second Web page and information identifying any computer viruses that were found in the second Web page.

13. (Original) The method of claim 11, further comprising the steps of:
extracting, from each Web page fetched, links to other Web pages;
fetching the other Web pages using the links;
scanning the other Web pages for terminology relating to computer viruses;
reviewing content of those other Web pages that include terminology relating to computer viruses to determine whether Web sites hosting the other Web page are virus hosting; and

storing information relating to the Web sites that are hosting the other Web pages in the database.

14. (Original) The method of claim 13, wherein the stored information includes information identifying the Web sites that are hosting the other Web pages and information identifying any computer viruses that were found in the other Web pages.

15. (Currently Amended) A method for protecting a Web hosting system from hosting a Web page that contains a link to a computer virus comprising the steps of:
receiving information identifying a first Web page to be hosted by the Web hosting system;
determining whether the first Web page includes a link to a Web site that is included in a database of Web sites related to computer viruses; and

allowing hosting of the first Web page based on whether the Web page includes a link to a Web site that is included in the database;

wherein the database of Web sites related to computer viruses is generated by:
extracting, from a first Web page, a link to a second Web page;
fetching the second Web page using the link;
scanning the second Web page for computer viruses; and
storing information relating to a Web site that is hosting the second Web page in the database;

wherein further included are the steps of:
extracting, from each Web page fetched, links to other Web pages;
fetching the other Web pages using the links;
scanning the other Web pages for computer viruses; and
storing information relating to Web sites that are hosting the other Web pages in the database.

16. (Original) The method of claim 15, wherein the determining step comprises the steps of:

extracting, from the first Web page, links to other Web pages; and
determining whether the other Web pages are hosted by Web sites that are included in the database.

17. (currently amended) The method of claim 16, wherein the allowing step comprises the steps of:

refusing to host the first Web page, if the first Web page includes a link to a Web page that is hosted by a Web site that is included in the database; and
hosting the first Web page, if the first Web page includes no links to [[a]] any Web pages that are hosted by a Web site that is included in the database.

18. (Cancelled)

19. (Cancelled)

20. (Currently Amended) The method of claim 195, wherein the stored information includes information identifying the Web site that is hosting the second Web page and information identifying any computer viruses that were found in the second Web page.

21. (Cancelled)

22. (Currently Amended) The method of claim 2115, wherein the stored information includes information identifying the Web sites that are hosting the other Web pages and information identifying any computer viruses that were found in the other Web pages.

23. (Currently Amended) The method of claim 185, wherein the generating step comprises the steps of:

extracting, from a first Web page, a link to a second Web page;
fetching the second Web page using the link;
scanning the second Web page for terminology relating to computer viruses;
reviewing content of the second Web page to determine whether a Web site hosting the second Web page is virus hosting, if the second Web page includes terminology relating to computer viruses; and
storing information relating to the Web site that is hosting the second Web page in the database.

24. (Original) The method of claim 23, wherein the stored information includes information identifying the second Web page and information identifying any computer viruses that were found in the second Web page.

25. (Original) The method of claim 23, further comprising the steps of:

extracting, from each Web page fetched, links to other Web pages;
fetching the other Web pages using the links;
scanning the other Web pages for terminology relating to computer viruses;

reviewing content of those other Web pages that include terminology relating to computer viruses to determine whether Web sites hosting the other Web page are virus hosting; and

storing information relating to the Web sites that are hosting the other Web pages in the database.

26. (Original) The method of claim 25, wherein the stored information includes information identifying the Web sites that are hosting the other Web pages and information identifying any computer viruses that were found in the other Web pages.

27. (Currently amended) A system for protecting users from Web sites hosting computer viruses comprising:

a processor operable to execute computer program instructions;
a memory operable to store computer program instructions executable by the processor; and

computer program instructions stored in the memory and executable to perform the steps of:

receiving information identifying a Web page selected for access by a user;
determining whether the Web page is hosted by a Web site that is included in a database of Web sites related to computer viruses; and
allowing access to the Web page based on whether the Web page includes a link to a Web site that is included in the database;

wherein access to the Web page is allowed before determining whether the Web page is included in the database:

wherein the database of Web sites related to computer viruses is generated by:
extracting, from a first Web page, a link to a second Web page;
fetching the second Web page using the link;
scanning the second Web page for computer viruses; and
storing information relating to a Web site that is hosting the second Web page in the database;

wherein further included are the steps of:

extracting, from each Web page fetched, links to other Web pages;
fetching the other Web pages using the links;
scanning the other Web pages for computer viruses; and
storing information relating to Web sites that are hosting the other Web pages in the
database.

28. (Cancelled)

29. (Cancelled)

30. (Cancelled)

31. (Currently Amended) The system of claim 3027, wherein the allowing step comprises the steps of:

continuing to allow access to the Web page, if the Web page is determined not to be included in the database; and

preventing access to the Web page, if the Web page is determined to be included in the database.

32. (Cancelled)

33. (Cancelled)

34. (Currently Amended) The system of claim 3327, wherein the stored information includes information identifying the Web site that is hosting the second Web page and information identifying any computer viruses that were found in the second Web page.

35. (Cancelled)

36. (Currently Amended) The system of claim 3527, wherein the stored information includes information identifying the Web sites that are hosting the other Web pages and information identifying any computer viruses that were found in the other Web pages.

37. (Currently Amended) The system of claim 3227, wherein the generating step comprises the steps of:

extracting, from a first Web page, a link to a second Web page;
fetching the second Web page using the link;
scanning the second Web page for terminology relating to computer viruses;
reviewing content of the second Web page to determine whether a Web site hosting the second Web page is virus hosting, if the second Web page includes terminology relating to computer viruses; and
storing information relating to the Web site that is hosting the second Web page in the database.

38. (Original) The system of claim 37, wherein the stored information includes information identifying the second Web page and information identifying any computer viruses that were found in the second Web page.

39. (Original) The system of claim 37, further comprising computer program instructions executable to perform the steps of:

extracting, from each Web page fetched, links to other Web pages;
fetching the other Web pages using the links;
scanning the other Web pages for terminology relating to computer viruses;
reviewing content of those other Web pages that include terminology relating to computer viruses to determine whether Web sites hosting the other Web page are virus hosting; and
storing information relating to the Web sites that are hosting the other Web pages in the database.

40. (Original) The system of claim 39, wherein the stored information includes information identifying the Web sites that are hosting the other Web pages and information identifying any computer viruses that were found in the other Web pages.

41. (Currently Amended) A system for protecting a Web hosting system from hosting a Web page that contains a link to a computer virus comprising:

a processor operable to execute computer program instructions;
a memory operable to store computer program instructions executable by the processor; and

computer program instructions stored in the memory and executable to perform the steps of:

receiving information identifying a first Web page to be hosted by the Web hosting system;

determining whether the first Web page includes a link to a Web site that is included in a database of Web sites related to computer viruses; and

allowing hosting of the first Web page based on whether the Web page includes a link to a Web site that is included in the database;

wherein the database of Web sites related to computer viruses is generated by:
extracting, from a first Web page, a link to a second Web page;
fetching the second Web page using the link;
scanning the second Web page for computer viruses; and
storing information relating to a Web site that is hosting the second Web page in the database;

wherein further included are the steps of:
extracting, from each Web page fetched, links to other Web pages;
fetching the other Web pages using the links;
scanning the other Web pages for computer viruses; and
storing information relating to Web sites that are hosting the other Web pages in the database.

42. (Original) The system of claim 41, wherein the determining step comprises the steps of:

extracting, from the first Web page, links to other Web pages; and
determining whether the other Web pages are hosted by Web sites that are included in the database.

43. (currently amended) The system of claim 42, wherein the allowing step comprises the steps of:

refusing to host the first Web page, if the first Web page includes a link to a Web page that is hosted by a Web site that is included in the database; and
hosting the first Web page, if the first Web page includes no links to [[a]] any Web pages that are hosted by a Web site that is included in the database.

44. (Cancelled)

45. (Cancelled)

46. (Currently Amended) The system of claim 451, wherein the stored information includes information identifying the Web site that is hosting the second Web page and information identifying any computer viruses that were found in the second Web page.

47. (Cancelled)

48. (Currently Amended) The system of claim 471, wherein the stored information includes information identifying the Web sites that are hosting the other Web pages and information identifying any computer viruses that were found in the other Web pages.

49. (Currently Amended) The system of claim 441, wherein the generating step comprises the steps of:

extracting, from a first Web page, a link to a second Web page;
fetching the second Web page using the link;

scanning the second Web page for terminology relating to computer viruses; reviewing content of the second Web page to determine whether a Web site hosting the second Web page is virus hosting, if the second Web page includes terminology relating to computer viruses; and
storing information relating to the Web site that is hosting the second Web page in the database.

50. (Original) The system of claim 49, wherein the stored information includes information identifying the second Web page and information identifying any computer viruses that were found in the second Web page.

51. (Original) The system of claim 49, further comprising computer program instructions executable to perform the steps of:

extracting, from each Web page fetched, links to other Web pages;
fetching the other Web pages using the links;
scanning the other Web pages for terminology relating to computer viruses;
reviewing content of those other Web pages that include terminology relating to computer viruses to determine whether Web sites hosting the other Web page are virus hosting; and
storing information relating to the Web sites that are hosting the other Web pages in the database.

52. (Original) The system of claim 51, wherein the stored information includes information identifying the Web sites that are hosting the other Web pages and information identifying any computer viruses that were found in the other Web pages.

53. (Currently Amended) A computer program product for protecting users from Web sites hosting computer viruses, comprising:

a computer readable medium;
computer program instructions, recorded on the computer readable medium, executable by a processor, for performing the steps of

receiving information identifying a Web page selected for access by a user; - - - - -
determining whether the Web page is hosted by a Web site that is included in a database of Web sites related to computer viruses; and
allowing access to the Web page based on whether the Web page includes a link to a Web site that is included in the database;
wherein access to the Web page is allowed before determining whether the Web page is included in the database;
wherein the database of Web sites related to computer viruses is generated by:
extracting, from a first Web page, a link to a second Web page;
fetching the second Web page using the link;
scanning the second Web page for computer viruses; and
storing information relating to a Web site that is hosting the second Web page in the database;
wherein further included are the steps of:
extracting, from each Web page fetched, links to other Web pages;
fetching the other Web pages using the links;
scanning the other Web pages for computer viruses; and
storing information relating to Web sites that are hosting the other Web pages in the database.

54. (Cancelled)

55. (Cancelled)

56. (Cancelled)

57. (Currently Amended) The computer program product of claim 563, wherein the allowing step comprises the steps of:

continuing to allow access to the Web page, if the Web page is determined not to be included in the database; and

preventing access to the Web page, if the Web page is determined to be included in the database.

58. (Cancelled)

59. (Cancelled)

60. (Currently Amended) The computer program product of claim 593, wherein the stored information includes information identifying the Web site that is hosting the second Web page and information identifying any computer viruses that were found in the second Web page.

61. (Cancelled)

62. (Currently Amended) The computer program product of claim 6153, wherein the stored information includes information identifying the Web sites that are hosting the other Web pages and information identifying any computer viruses that were found in the other Web pages.

63. (Currently Amended) The computer program product of claim 583, wherein the generating step comprises the steps of:

extracting, from a first Web page, a link to a second Web page;
style="padding-left: 40px;">fetching the second Web page using the link;
style="padding-left: 40px;">scanning the second Web page for terminology relating to computer viruses;
style="padding-left: 40px;">reviewing content of the second Web page to determine whether a Web site hosting the second Web page is virus hosting, if the second Web page includes terminology relating to computer viruses; and
style="padding-left: 40px;">storing information relating to the Web site that is hosting the second Web page in the database.

64. (Original) The computer program product of claim 63, wherein the stored information includes information identifying the second Web page and information identifying any computer viruses that were found in the second Web page.
65. (Original) The computer program product of claim 63, further comprising computer program instructions executable to perform the steps of:
- extracting, from each Web page fetched, links to other Web pages;
 - fetching the other Web pages using the links;
 - scanning the other Web pages for terminology relating to computer viruses;
 - reviewing content of those other Web pages that include terminology relating to computer viruses to determine whether Web sites hosting the other Web page are virus hosting; and
 - storing information relating to the Web sites that are hosting the other Web pages in the database.
66. (Original) The computer program product of claim 65, wherein the stored information includes information identifying the Web sites that are hosting the other Web pages and information identifying any computer viruses that were found in the other Web pages.
67. (Currently Amended) A computer program product for protecting a Web hosting system from hosting a Web page that contains a link to a computer virus, comprising:
- a computer readable medium;
 - computer program instructions, recorded on the computer readable medium, executable by a processor, for performing the steps of
 - receiving information identifying a first Web page to be hosted by the Web hosting system;
 - determining whether the first Web page includes a link to a Web site that is included in a database of Web sites related to computer viruses; and
 - allowing hosting of the first Web page based on whether the Web page includes a link to a Web site that is included in the database;

wherein the database of Web sites related to computer viruses is generated by:
extracting, from a first Web page, a link to a second Web page;
fetching the second Web page using the link;
scanning the second Web page for computer viruses; and
storing information relating to a Web site that is hosting the second Web page in the
database;

wherein further included are the steps of:
extracting, from each Web page fetched, links to other Web pages;
fetching the other Web pages using the links;
scanning the other Web pages for computer viruses; and
storing information relating to Web sites that are hosting the other Web pages in the
database.

68. (Original) The computer program product of claim 67, wherein the determining step comprises the steps of:

extracting, from the first Web page, links to other Web pages; and
determining whether the other Web pages are hosted by Web sites that are included in the database.

69. (currently amended) The computer program product of claim 68, wherein the allowing step comprises the steps of:

refusing to host the first Web page, if the first Web page includes a link to a Web page that is hosted by a Web site that is included in the database; and
hosting the first Web page, if the first Web page includes no links to [[a]] any Web pages that are hosted by a Web site that is included in the database.

70. (Cancelled)

71. (Cancelled)

72. (Currently Amended) The computer program product of claim 7467, wherein the stored information includes information identifying the Web site that is hosting the second Web page and information identifying any computer viruses that were found in the second Web page.

73. (Cancelled)

74. (Currently Amended) The computer program product of claim 7367, wherein the stored information includes information identifying the Web sites that are hosting the other Web pages and information identifying any computer viruses that were found in the other Web pages.

75. (Currently Amended) The computer program product of claim 7067, wherein the generating step comprises the steps of:

extracting, from a first Web page, a link to a second Web page;

fetching the second Web page using the link;

scanning the second Web page for terminology relating to computer viruses;

reviewing content of the second Web page to determine whether a Web site hosting the second Web page is virus hosting, if the second Web page includes terminology relating to computer viruses; and

storing information relating to the Web site that is hosting the second Web page in the database.

76. (Original) The computer program product of claim 75, wherein the stored information includes information identifying the second Web page and information identifying any computer viruses that were found in the second Web page.

77. (Original) The computer program product of claim 75, further comprising computer program instructions executable to perform the steps of:

extracting, from each Web page fetched, links to other Web pages;

fetching the other Web pages using the links;

scanning the other Web pages for terminology relating to computer viruses; . . .
reviewing content of those other Web pages that include terminology relating to computer viruses to determine whether Web sites hosting the other Web page are virus hosting; and
storing information relating to the Web sites that are hosting the other Web pages in the database.

78. (Original) The computer program product of claim 77, wherein the stored information includes information identifying the Web sites that are hosting the other Web pages and information identifying any computer viruses that were found in the other Web pages.

79. (New) The method of claim 11, wherein the terminology includes virus specific keywords.

80. (New) The method of claim 11, wherein the terminology includes information relating to virus-making techniques.

81. (New) The method of claim 1, wherein the generating is carried out automatically utilizing a web crawler.

82. (New) The method of claim 1, wherein the generating begins by crawling pages included in a user repository of links, links entered by users, known virus sites, links from HTML pages, virus and trojan alerts, links entered through a newsgroups, and search engine results.

83. (New) The method of claim 1, wherein the information includes status information for causing the revisiting of HTML pages after a period of time.

84. (New) The method of claim 1, wherein the information includes status information for causing the revisiting of HTML pages if false information is detected.

85. (New) The method of claim 1, wherein the information includes status information for preventing revisiting of HTML pages.

86. (New) The method of claim 81, wherein a capability is provided to monitor a progress of the web crawler to ensure that all pending links are scanned, wherein a further capability is provided to periodically update scanning of sites that have already been scanned.

87. (New) The method of claim 1, wherein the database includes a plurality of records each with a server field, a path field, a name field, an options field, a date visited field, a date modified field, a DAT version field, an engine version field, a virus field, and a file name field.